

## PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)  
309.035

I hereby certify that this correspondence is being electronically filed with the United States Patent and Trademark Office on the date shown below.

on December 26, 2007Signature Christine KierzekTyped or printed name Christine KierzekApplication Number  
10/789,652Filed  
02/27/2004First Named Inventor  
JOHN M. WIRTZ

Art Unit

2837

Confirmation No. 9155

Examiner

Renata D. McCloud

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

 applicant/inventor. assignee of record of the entire interest.See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.  
(Form PTO/SB/96) attorney or agent of record.Registration number 36,020

Signature

Peter C. Stomma

Typed or printed name

414.225.9755

Telephone number

 attorney or agent acting under 37 CFR 1.34.Registration number if acting under 37 CFR 1.34. 12/26/07

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.  
Submit multiple forms if more than one signature is required, see below\*. \*Total of 1 forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

## PRE-APPEAL BRIEF REQUEST FOR REVIEW

### Drawings and Specification

The Examiner has objected to the drawings under 37 CFR §1.83(a) as failing to show every feature of the invention specified in the claims and has objected to the specification for the same reason. The Examiner asserts that certain phrases used in the claims, namely, “interior,” “control module,” “power unit,” “interface,” “intermediate unit,” “power supply unit,” and “control structure” are not shown in the drawings and the claims lack consistency with the specification. It appears that Examiner is merely objecting to the fact that certain claim elements are not identified exactly as provided for in the specification. However, there is no requirement that the language used in a claim must mirror the language used in the specification.

35 U.S.C. §112, second paragraph, allows applicants to act as their own lexicographers. Applicants can define in the claims what they regard as their invention essentially in whatever terms they choose so long as any special meaning assigned to a term is clearly set forth in the specification. “An examiner must focus their examination of claims for compliance with the requirement for definiteness under 35 U.S.C. §112, second paragraph, as whether the claim meets the threshold requirements of clarity and precision, not with whether more suitable language or modes of expression are available.” MPEP §2173.02.

Applicants have used no special language in the claims and the language in the claims is substantially similar to the language in the specification such that a person of ordinary skill in the art could interpret the metes and bounds of the claim. Accordingly, Applicants believe that these rejections by the Examiner constitute clear error. Review and reversal of the Examiner’s rejections are respectfully requested.

### Claim Rejections

The Examiner has rejected claims 1-23 under 35 U.S.C. § 103(a) as being unpatentable over Hahn et al., United States Patent No. 6,452,349 in view of Schienbein et al., U.S. Application No. US 2003/0036806 and in view of Edelson, U.S. Patent No. 6,922,037. Applicants believe that the rejections by the Examiner constitute clear error. Review and reversal of the Examiner’s rejections are respectfully requested.

### Claims 1-8

Claim 1 defines a modular control system for an AC motor. The control system includes a drive module having an interior housing an AC drive. The AC drive interconnects the AC motor to a utility power source. A control module has an interior that houses a control structure for controlling operation of the AC drive. A redundant power supply is operatively connected to the control

structure for supplying electrical power to the control structure. An intermediate module houses a plurality of conductors that interconnect the control module and the drive module. The plurality of conductors electrically couple the control structure in the AC drive and to allow the control structure to transmit operating instructions to the AC drive therethrough. As hereinafter described, neither of the cited references show or suggest a modular control system that includes a plurality of distinct modules having interiors for housing various components of a motor control or an intermediate module that interconnects the control module and the drive module so as to electrically couple the control structure and the AC drive and to allow the control structure to communicate with the AC drive.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The Hahn et al. '349 patent discloses an electronically commutated motor having a permanent magnet rotor and stator. The Examiner suggests that circuit discloses a drive module housing an AC drive, a control module housing a control structure and an intermediate module interconnecting the control module and the drive module. However, the Hahn et al. '349 patent merely discloses a circuit whereby the Examiner appears to be arbitrarily identifying modules. Nothing in the '349 patent shows or suggests a drive module having an interior for housing an AC drive, a control module having an interior for housing a control structure or an intermediate module housing a plurality of conductors, as required by independent claim 1. In fact, the Examiner concedes that the '349 patent does not explicitly recite that the control system is modular.

The '806 application cannot cure the deficiencies of the '349 patent. The '806 application is directed to a power conservation energy management system that includes a controller, one or more standard modules and a custom backplane. Initially, it is noted that nowhere in the '806 application are the modules described as having an interior, as required by claim 1, or as housing components, as required by claim 1. Further, the backplane of the system of the '806 application does not allow for communication therealong between the control structure and the AC drive. More specifically, the backplane in the '806 application accommodates one or more modules and uses the modules to control power quality and/or the flow of power to one or more input/output selections. As best seen

in Fig. 5, the back plane includes both analog and digital circuitry. The digital backplane communicates digital signals with the digital components of the inverter, converter and grid modules. The analog backplane communicates analog signals with the analog components of the inverter, and grid modules. The grid module monitors the voltages supplied by the inverter to the backplane and decides when the system should be connected to the power grid. Hence, no operating instructions pass between from the control structure and the AC drive through the grid connect module. Further, there is no teaching or suggestion in the '806 application to provide the intermediate module that includes a plurality of conductors to electrically interconnect a control structure and an AC drive so as to allow the control structures to transmit operating structures to the AC drive therethrough.

The '037 patent cannot cure the deficiencies of the '349 patent or the '806 application. The '037 patent is directed to a electrical rotating apparatus that comprises an inverter system that outputs more than three phases and not to any type of control system for an AC motor. Although the inverter described in the '037 patent may be of modular construction, it is only described as being modular with respect to the number of phases, such that “[t]he apparatus may be made modular by placing a half bridge or full bridge drive, whichever was being used, in a module. The number of modules needed for any particular apparatus is determined by the number of phases. Accordingly, by providing modular construction, one controller and multiple modules may be used on various motors with different phases.” (Edelson, col. 12, line 63- col. 13, line 7). Similar to the '806 application, the modules of the '037 patent are not described as having an interior, as required by claim 1, or as housing components, as also required by claim 1. Also similarly, the backplane of the system of the '037 patent does not allow for communication therealong between the control structure and the AC drive. The backplane in the '037 application accommodates one or more modules and uses the modules to allow for provision of a number of phases. Further, there is no teaching or suggestion in the '037 patent to provide the intermediate module that includes a plurality of conductors to electrically interconnect a control structure and an AC drive so as to allow the control structures to transmit operating structures to the AC drive therethrough.

The modular control system of the claim 1 defines three distinct modules having interiors for housing various components of a motor control. The cited references do not show or suggest such a structure. In fact, both of the cited references are void of any teaching of a modular control system wherein the various components of the control system are housed within distinct housings. As such, the Examiner's rejection of claim 1 under 35 U.S.C. §103(a) constitutes clear error, and as such reversal of the Examiner's rejection is respectfully requested.

Claims 2-8 depend either directly or indirectly from independent claim 1 and further define a modular control system not shown or suggested in the art. It is believed that claims 2-8 are allowable as depending from an allowable base claim and in view of the subject matter of each claim.

**Claims 9-23**

Referring to claim 9, a drive system for an AC motor is defined. The drive system includes a power unit having an interior housing for an AC drive. The AC drive is connectable to the AC motor and to a power source. An interface unit also has an interior housing a programmable control circuit that controls operation of the AC drive. A redundant power supply is operatively connected to the control circuit for supplying electrical power to the control circuit. An intermediate unit is disposed between and interconnects the power unit and the interface unit. The intermediate unit houses a plurality of conductors that electrically couple the control structure and the AC drive. As hereinafter described, neither of the cited references show or suggest a modular control system defines three distinct units having interiors for housing various components of a motor control or an intermediate/interface unit that interconnects the interface unit and the power unit so as to electrically couple the control circuit and the AC drive.

Claim 17 defines a drive system for an AC motor. The drive system includes a power module having an interior housing AC drive. The AC drive is connectable to an AC motor and to a power source. An intermediate module has an interior housing a programmable control circuit that controls operation of the AC drive. A power supply unit has a power supply selectively connectable to the control circuit for providing electrical power to the control circuit independent of the power source.

As described with respect to independent claim 1, the '806 application and the '037 patent fail to teach and/or suggest a modular control system wherein the units have interiors that house components. In addition, there is no teaching or suggestion in the '806 application or the '037 patent to provide an intermediate unit that includes a plurality of conductors to electrically interconnect a control circuit and an AC drive. As such, the Examiner's rejection of claim 9 and claim 17 under 35 U.S.C. §103(a) also constitutes clear error, and as such reversal of the Examiner's rejection is respectfully requested.

Claims 10-16 depend either directly or indirectly from independent claim 9 and further define a drive system not shown or suggested in the art. Claims 18-23 depend either directly or indirectly from independent claim 17 and further define a drive system not shown or suggested in the art. It is believed that claims 10-16 are allowable as depending from an allowable base claim and in view of the subject matter of each claim.

U.S. Serial No.: 10/789,652  
Inventors: John M. Wirtz et al.  
Page 5

Applicant believes that the Examiner's rejection of claims 1-23 constitutes a clear error, and as such, reversal of the Examiner's rejection is respectfully requested.

Respectfully submitted,



Peter C. Stomma  
Registration No.36,020

Dated: 12/26/07  
Boyle Fredrickson, S.C.  
840 North Plankinton Avenue  
Milwaukee, WI 53203  
Phone: 414 225-9755  
Fax: 414. 225-9753  
Docket No.: 309.035